Contents

Fisheries and Water-Related Wildlife

Wildlife habitats vary from the alpine environments of the Wasatch Range to the desert settings of eastern Juab County and Cedar Valley. These habitats support an equally diverse population of fish and wildlife species whose needs must be balanced with those of humans who share the resources.

14.1 Introduction

This section describes the fisheries and other water-related wildlife currently found in the basin. It also identifies associated problems and presents alternatives to improve this resource. The Division of Wildlife Resources has responsibility for managing, protecting, propagating and conserving the state's wildlife. Some federal agencies have limited authority for wildlife management on lands they administer. The Fish and Wildlife Service has authority to conserve and protect endangered and threatened species on private and federal lands.

14.2 Setting

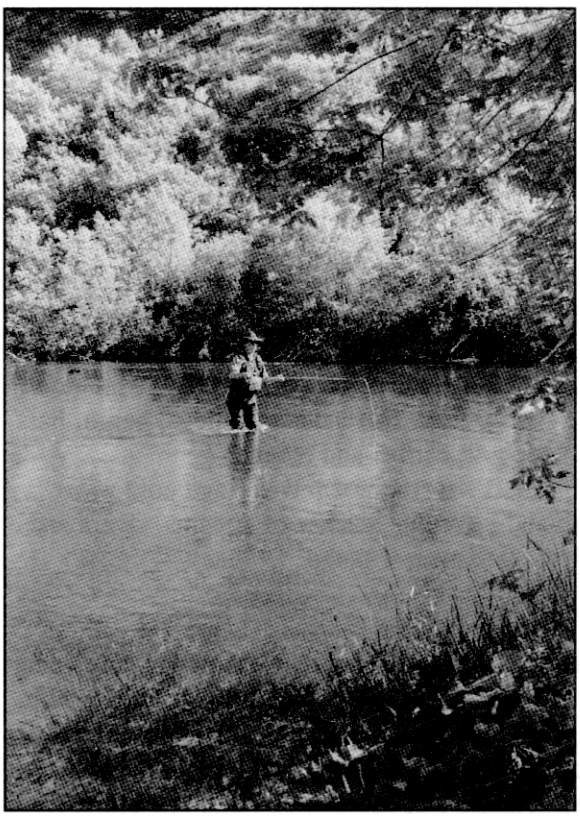
This basin has unique ecosystems supporting a diversity of species. Most of the wildlife habitat is on and around Utah Lake. Powell Slough and Goshen Warm Springs Wildlife Management Areas are nearby. Benjamin Slough and Goshen Bay are proposed wetland preserves under the Central Utah Project Completion Act (CUPCA). A 2,000-foot protection zone along the shoreline of the southern portion of Provo Bay has been identified in CUPCA where wetland habitat should be protected.

Major streams that end in Utah Lake are Currant Creek, Spanish Fork River, Hobble Creek, Provo River, American Fork River, Dry Creek, and West Canyon Creek in Cedar Valley. Most of the major drainages support good quality riparian habitats. They are also affected by highways and irrigation diversions. Irrigation and power demands reduce these streams' value as fisheries.

14.2.1 Fish and Wildlife Species

An estimated 90 species of mammals, 24 species of reptiles, 8 species of amphibians, 308 species of birds, and 33 species of fish are found in the basin. Nearly all require constant access to water. Species of fish are categorized as warm water or cold water and game or non-game.

Bird species can be categorized into three groups: upland game birds, waterfowl and non-game birds. Several naturally occurring species of hunted game animals are also found. Of special interest are those species designated as threatened and endangered. Each of these species has been judged to be in danger of



Fly fishing on the Provo River

extinction throughout all or a significant part of its range. Threatened and endangered species are protected by federal and state laws and regulations. The Endangered Species Act (ESA) strictly prohibits any person to take any federally listed member of a threatened or endangered species. To take also means to destroy or sufficiently change the habitat of a listed species.

The ESA does not apply directly to non-federal water-related activities that do not require federal permits. Owners and operators of non-federal projects are not affected as long as the normal and ongoing operations do not result in the taking of one of these species.

The criteria for threatened and endangered status and category designations are explained in Subsection 16.3.8. Fish and wildlife species classified as candidates for official listing, and those categorized as threatened or endangered, are shown in Table 16-1.

In the event federal permits are required to develop a water source or make revisions to existing ones, the Fish and Wildlife Service (FWS) will review the project. The scope and overall intent of the proposed project or change will be assessed to decide the effect on fish and wildlife in the immediate area. Endangered plants are treated differently than endangered animal species on private property. Threats to these plant species will not stop development activities in an area where federal permits are not required.

14.2.2 Fisheries

The Utah Lake Basin supports two state fish hatcheries (Midway and Springville) and several Class I fisheries for cold water and warm water sport fishes. Cold water fish include most species of trout and a few salmon. Warm water fish include walleye, perch, bass, crappie, blue gill, catfish and others.

Table 14-1 lists the warm water and cold water sport fish and identifies reaches of streams, rivers and reservoirs where each is found.

14.2.3 Wildlife Habitat

Habitat is the most important factor in maintaining healthy and substantial populations of fish and wildlife. Overall, habitat is influenced by the condition of the ecological system and the level and type of human activities. Nature's abundance of water and climate, along with construction of water storage facilities, have created exceptional habitat for a wide variety of fish and wildlife. However, the continued growth and demand for water and land is in direct conflict with the needs of some species.

Title 73-3-3 of the *Utah Code Annotated* allows the Division of Wildlife Resources to file for minimum instream flow water rights for the preservation of fish species. The division may file requests for permanent changes in the operation of certain streams to preserve critical fish habitats and provide permanent enhancement of fisheries. Section 5 discusses instream flows and shows pre-and post-Central Utah Project requirements for this basin (see Figure 5-3). Law protects most of the state's fish and wildlife. This is part of the purpose for controls on how water storage and conveyance facilities are operated.

14.3 Organizations and Regulations

Local, county, state and federal agencies have a part in passing and enforcing laws to regulate management of water facilities that affect wildlife. Private organizations work with these public groups to protect fish and wildlife habitat.

14.3.1 Local

Cities, counties, irrigation companies and water districts control water facilities that affect fish and wildlife. The impact may be either direct or indirect. Early irrigation rights holders are not required to leave water in the streams during time of low flow. Fish and wildlife management agencies may purchase water from these irrigators to prevent diversions and allow instream flows that protect various fishes.

Under the Central Utah Project Completion Act, the district is provided incentives to conserve water for instream flows. One purpose of the Water Conservation Credit Program of CUPCA is to "prevent or eliminate unnecessary depletion of waters in order to assist in the improvement and maintenance of water quantity, quality, and streamflow conditions necessary to augment water supplies and support fish, wildlife, recreation and other public benefits."

14.3.2 State

The Division of Wildlife Resources has responsibility for the management, protection, propagation and conservation of the state's wildlife resources. Much of the project planning currently being carried out by the Central Utah Water Conservancy District must be coordinated with the mission of this agency.

Table 14-1
SPORTS FISHERIES

Species	SC	CC	SF	HO	PR	AF	DR	DF	MR	UL	DC	JR
Rainbow Trout	X	X		X	X	X	X	X			X	X
Cutthroat Trout			X	X	X	X	X	X			X	
Brown Trout	X	X	X	X	X	X	X	X			X	X
Brook Trout				X	X	X		X				
Kokanee Salmon												
Mountain Whitefish					X							
Channel Catfish			X		X					X		
Black Bullhead		X	X		X				X	X		
White Bass			X		X					X		
Largemouth Bass		X			X					X	X	
Smallmouth Bass					X						X	X
Bluegill					X					X		
Black Crappie										X		
Yellow Perch					X				X	X	X	
Walleye			X		X					X	X	
Wipers (White Bass X Striped Bass)									X			

SC - Salt Creek
CC - Currant Creek
SF - Spanish Fork
HO - Hobble Creek
PR - Provo River
AF - American Fork
DR - Dry Creek
DF - Diamond Fork
MR - Mona Res.
UL - Utah Lake
DC - Deer Creek Reservoir
JR - Jordanelle Reservoir

The division has responsibility to play a lead role in identifying impacts to fish and wildlife from water development projects. Several agreements and plans have been developed for the management and conservation of aquatic species within the Utah Lake Basin. These include: Utah *Lake Fish Management Plan* which is consistent with recovery actions identified in the June *Sucker Recovery Plan*, the Bonneville *Cutthroat Trout Conservation Agreement and Strategy*, the Least *Chub Conservation Agreement and Strategy, and the Spotted Frog Conservation Agreement and Strategy*. Similar documents will be developed in the future for the leatherside chub and the boreal toad. These documents are being developed to expedite implementation of conservation and recovery measures as a collaborative and cooperative effort among resource agencies. The threats that warrant federal listing of these species should be eliminated through implementation of the actions identified in these documents.

14.3.3 Federal

The federal government influences fish and wildlife management through Department of the Interior agencies, and by passing legislation. The Fish and Wildlife Service (FWS) is charged with carrying out the Fish and Wildlife Coordination Act which requires consultation between FWS and state agencies on specific activities. The FWS is also charged with administering and regulating the Endangered Species Act. All federal agencies are charged with using their authorities to further the purposes of this act by carrying out programs for the conservation of threatened and endangered species.

The Bureau of Reclamation is currently required, pursuant to the biological opinion for the operation of the Provo River Project, to provide minimum instream flows for the endangered June sucker, and to fund several studies for June sucker research. June sucker flows are required pursuant to the Endangered Species Act.

The biological opinion provides a reasonable and prudent alternative which avoids the likelihood of jeopardy to the June sucker. It avoids destruction or adverse modification to its designated critical habitat (defined as the lower 7.8 km (4.9mi) of the Provo River from Utah Lake upstream to the Tanner Race Diversion Dam). There are four elements to the reasonable and prudent alternative. First, identify, store, deliver, and protect water necessary for minimum annual flushing, spawning, and nursery flows in the Provo River. Studies will be conducted for a three-year period (begun in 1995) to refine these flow recommendations. Second, ensure that storage flexibility in Deer Creek Reservoir occurs to assist with flow requests during June sucker spawning. Third, install a water quality monitoring system to maintain adequate water quality during June sucker residence in the Provo River. And fourth, ensure full discussion and action for June sucker flow and habitat needs through the interagency/ interdisciplinary Provo River Resource Team. All four of these elements should be implemented to preclude jeopardy to the June sucker.

The Bureau of Reclamation also works with state and local agencies to promote fish and wildlife activities at reservoirs constructed under reclamation law. The bureau develops facilities management plans for each project to promote sport fishing and optimize recreational opportunities. Potentially, the most important impact the federal government may have on fish and wildlife will be to fund environmental enhancement and mitigation projects of the Central Utah Project Completion Act.

14.4 Problems and Needs

Four problems are apparent which affect fish and wildlife in this basin. They are minimum instream flows, watershed protection, stream channel erosion, and wetlands protection and enhancement.

14.4.1 Minimum Instream Flows

Another environmental need on the Provo River is to insure that instream flows are provided to meet year round needs for the endangered June sucker. Appropriate flow levels, timing and duration that resemble the historic hydrograph of the Provo River should be attained. Studies have been conducted and several minimum instream flows have been recommended. But flows sufficient to maintain June sucker habitat in the Provo River have yet to be determined. One study recommended pre-spawning flows (May 1 to spawn) be at least 50 cfs and a minimum of 80 to 250 cfs below the Tanner Race Diversion. This will maintain at least 75 percent of the habitat. One hundred to 170 cfs will maintain 95 percent of habitat in this reach during spawning (June 1-July 1).

It is unknown what year-round instream flows are required to meet June sucker needs. Therefore, the biological opinion for the Provo River Project (USFWS 1994) required that several studies be conducted to determine these flows. Once flow studies have been completed and analyzed, a determination will be made on what instream flows are necessary to meet the needs of the June sucker.

Several major streams dry up during drought years, making it very difficult to maintain the excellent fisheries. Section 303 of the Central Utah Project Completion Act calls for instream flows in the Provo River from Jordanelle Reservoir to Utah Lake.

14.4.2 Watershed Protection

Canyons on the east side of the basin are heavily used during the summer for recreation and grazing. Summer homes, along with year-round homes, ATV travel and livestock grazing along riparian corridors contribute to stream bank instability, reduce vegetation, and increase the silt loading of streams.

14.4.3 Stream Channel Erosion

The Diamond Fork and Spanish Fork rivers

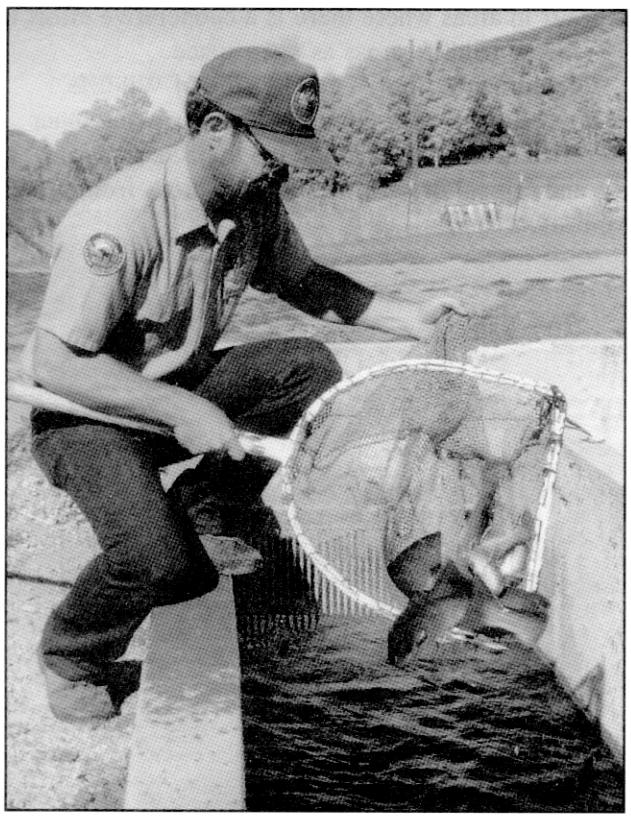
experience unusually high flows during the irrigation season, thus causing erosion of the stream banks. Under CUP, the high flows will be taken out of Diamond Fork River and placed in the Diamond Fork pipeline, reducing erosion in the stream.

14.4.4 Wetlands Protection

Utah Lake and surrounding wetlands are threatened by urban growth and farming practices. Drainage from urban surfaces and increased pumping of groundwater threatens the quality and quantity of the water supplied to wetland resources.

14.5 Alternative Solutions

Title III of the Central Utah Project Completion Act (CUPCA) calls for creation of the Utah Reclamation



Hatcheries benefit basin fisheries

Mitigation and Conservation Commission. The Commission's purpose is: "to coordinate the implementation of the mitigation and conservation provisions of CUPCA among the federal and state fish, wildlife and recreation agencies." This commission is now organized and operating. Its duties are provided in Section 301 of CUPCA. The commission's *Mitigation and Conservation Plan* was published in May 1996. It provides an overview of the planning process and explanations of its programs, a budget and schedule for implementing projects, and a monitoring program.

Section 303 of the act provides instream flows in Diamond Fork River and the Provo River. Lower Spanish Fork River is also benefitted by instream flows in Diamond Fork. Sections 304 and 305 authorized completion of several fish and wildlife projects outlined in the *1988 Definite Plan Report*. The Mitigation and Conservation Commission is also directed to purchase big game winter rangelands to compensate for the impacts of federal reclamation projects in Utah. Big game crossings and wildlife escape ramps in large canals are also to be provided.

A Utah Lake Wetlands Preserve is to be established. Acquisition of land, water rights and other interests will be accomplished with an appropriation of $16,690,000. The preserve will be managed for the protection of migratory birds, wildlife habitat and wetland values in a manner compatible with the surrounding farmlands and orchards. Lands and water rights must be acquired from willing sellers.

Representatives from several agencies and organizations have developed a plan for the protection and enhancement of Utah Lake wetlands. Under the auspices of the *North American Waterfowl Management Plan*, and its regional Intermountain West Joint Venture, a conceptual plan for the Utah Lake Focus Area was completed in 1995.

Water quality and fish and wildlife benefits could be realized if local sponsors (cities, special service districts, corporations, conservation organizations, Utah County, state and federal agencies) could participate in joint ventures to enhance key wetlands adjacent to Utah Lake. Two project areas are proposed for wetland protection and enhancement using the discharge from wastewater treatment plants (Timpanogos WWTP and Orem WWTP). Allowing wetlands to improve the quality of treated effluent prior to discharged is a viable management strategy around Utah Lake and along the Jordan River.

A concept plan for the Utah Lake Focus Area was completed in 1995. This was a separate activity under the auspices of the multi-agency North American Waterfowl Management Plan. Its purpose is to protect and enhance Utah Lake wetlands.

The Governor's Office of Planning and Budget and natural resource agencies are preparing a state wetland protection plan. They are working through the

Resource Development Coordinating Committee and the Division of Wildlife Resources. High priority wetland areas throughout the state will be identified, and opportunities for protection and enhancement will be addressed. Ultimately, cities and counties should give wetlands and riparian land greater consideration as discharge areas for flood events. Salt Lake County's Jordan River Meander Corridor Ordinance offers an alternative to expensive flood control activities, and could be a model for other counties.

Several agreements and plans have been developed for the management and conservation of aquatic species within the Utah Lake Basin (see Section 14.3.2). Resource agencies developed these documents to expedite implementation of conservation and recovery measures as a collaborative and cooperative effort. Actions identified therein include population and habitat enhancement and protective actions. Opportunities for mitigation where impacts to these species and their habitat may occur have also been identified. Through the actions identified in these documents, the threats that warrant federal listing of these species should be eliminated.

14.6 Issues and Recommendations

One key issue, conversion of water from irrigation to municipal uses, is discussed.

Issue - Conversion of land and water from irrigation to municipal and industrial use impacts fish and wildlife.

Discussion - The availability of culinary water may limit growth in some rural and urbanizing areas. As the demand for housing increases, conversions from irrigation to municipal water uses take place. This conversion dewaters portions of streams, resulting in a significant impact on fisheries. In addition, critical wildlife habitat may be eliminated through urbanization. Counties need to address their open space and agricultural land needs as they revise their general plans. Sensitive wildlife areas could be identified and protected in this planning process. Habitat protection will occur in areas where there is a cooperative effort to set aside key wildlife areas as open space.

Recommendation - The Division of Wildlife Resources should work closely with county and other local officials to provide programs to protect stream flows and critical or sensitive wildlife areas from urbanization. ✣ ✣